

Codes of Conservation

A WebQuest for DNA Bar Codes

Introduction

DNA bar coding is a very recent scientific technique. Scientists discovered that they can use certain segments of mitochondrial DNA to positively identify every living species on Earth. DNA bar coding holds immense promise for helping to protect ecosystems and endangered species. It can also protect the food supply and help keep invasive plant and animal species out of regions where they would impact native flora and fauna. In this WebQuest, you will learn about applications of DNA bar coding and how the technique can benefit the environment. Then, you will report on your findings.

Task

You are a journalist who works for National Public Radio (NPR). You and several other journalists have been assigned to report on how DNA bar coding can help protect ecosystems and endangered species and how it can be used to make food safer and to prevent the spread of invasive species. Your task is to record a three-minute radio newscast on the topic. Your teacher will divide your class into small groups to conduct research and write and record your radio newscasts.

Process

Use the resources listed in the Resources section to begin your research. The Web sites listed are good starting points, but further Internet research will be necessary. Record your answers to the following questions.

1. How can the habitat of endangered species be protected by DNA bar coding?
2. How can DNA bar coding help protect endangered species from human activities?
3. How can DNA bar coding help scientists assess ecosystem health?
4. How can the work of food inspectors benefit from the use of DNA bar coding?
5. How can the spread of invasive species and pests be reduced by DNA bar coding?

Radio Newscast

Once you have completed your research, your group should organize your notes and write a three-minute radio newscast. You might include interviews, “on-the-scene” recordings, and/or commentary. You will need a tape recorder or a digital recorder to record your radio newscast. Make sure that everyone in your group has a speaking role in the newscast. Play your radio newscast for the rest of your class.

Resources

[Science Daily](#)

[National Geographic](#)

[Environmental Protection Agency \(EPA\)](#)

[U.S. Food and Drug Administration \(FDA\)](#)
[U.S. Fish and Wildlife Service \(FWS\)](#)

Evaluation

Read this rubric to see how you will be scored on this activity.

Criteria					Points
	0	5	10	15	
Task	The task was not completed.	It appears that some effort was made to complete the task, but major ideas were missing.	The task was completed but some information was incorrect.	The task was completed with great attention to detail.	
Process	The process was not followed.	The process was followed, but not all of the questions were answered.	The process was followed, but some answers were incorrect.	It was clear that much research went into the project. The answers were complete and correct.	
Radio Newscast	The radio newscast was too short and did not include much information on the topic.	The radio newscast was nearly long enough, but information was missing or incorrect.	The radio newscast was the correct length, but did not include much variety in its presentation. and lacked general cohesiveness.	The radio newscast was well organized and included variety in its presentation. Much relevant information was included.	
Total Score					